

d. Amendments to Claims

1. (Original) A method of electro-optically modulating an optical carrier wave with a control wave, comprising:

5 transmitting a sequence of wavefronts of the optical carrier wave to an optical waveguide, the optical carrier wave having a first wavelength; and

transmitting a control wave having a second wavelength to a control waveguide to electro-optically modulate velocities of the wavefronts in the optical waveguide, a dielectric cladding adjacent the optical waveguide having a refractive index at the second
10 wavelength that is larger than the refractive index in the optical waveguide at the first wavelength.

2. (Original) The method of claim 1,

wherein the second wavelength is one of a microwave, a millimeter wave, and a
15 submillimeter wave; and

wherein the first wavelength is in a range of about 1.3 microns to about 1.7 microns.

3. (Currently amended) The method of claim 1,

20 wherein an intensity of an electric field produced by the control wave is higher in inside the optical waveguide than in the portion of the cladding located adjacent the optical waveguide.

4. (Original) The method of claim 1, further comprising:

25 interfering the sequence of wavefronts from the optical waveguide with a sequence of wavefronts from another optical carrier wave, the another optical carrier wave being coherent with the optical carrier wave transmitted to the optical waveguide.

5. (Original) The method of claim 1, further comprising:

30 transmitting the wavefronts with modulated propagation times from the optical waveguide to a distant external receiver.

6. (New) The method of claim 1, wherein a portion of the control wave in dielectric of a modulator experiences an effective refractive index that is about 5% to 20% larger than an effective refractive index experienced by the optical carrier wave inside the modulator.